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10/534,668	05/11/2005	James Bruce Franklin	CU-4204 BWH	6549
26530	7590	12/20/2007	EXAMINER	
LADAS & PARRY LLP			TSIDULKO, MARK	
224 SOUTH MICHIGAN AVENUE				
SUITE 1600				
CHICAGO, IL 60604				
			ART UNIT	PAPER NUMBER
			2875	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/534,668

**Applicant(s)**

FRANKLIN ET AL.

**Examiner**

Mark Tsidulko

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29 and 31-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29 and 31-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The submission of RCE and amendment filed on 10/24/2007 is acknowledged. At this point claims 29 and 31 have been amended, claims 1-28, 30 and 57 have been canceled and the remaining claims left unchanged. Thus, claims 29, 31-56 are at issue in the instant application.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 31-33, 36-40, 45-47, 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. (US 6,784,603) in view of Naum (US 6,272,269) and Rai et al. (US 6,369,866).

Referring to Claims 29, 31, 32, 36, 39, 40, 56 Pelka et al. disclose (Fig.1) a daylight collection system for generating an output of fluorescent light including a light collector [2] made of optically transmissive material and containing a dispersed species that will fluoresce in response to incident radiation (col.6, lines 23-25, 63-65). The fluorescent dyes can be arranged in different sorts or patterns within the collector to create various colors, for example a green output (col.12, lines 16-29).

Pelka et al. disclose the instant claimed invention except for a supplemental light source, an optical guide, the light from the daylight collector and light from a supplemental light source

are directed separately into the optical guide and wherein lights from collector and supplemental light source are of different colors.

Naum discloses (Fig.10) an illumination system including a light collector [26], an electrically powered light emitting device [66] and a light guide (optical cable) [48]. The system includes LEDs of different colors, including red, green and blue (col.8, line 10). Combination of green light of the device of Pelka et al. with the different colors LEDs of Naum allows obtaining an illumination with wide array of colors of light output, including a neutral white color.

Rai et al. disclose (Figs.3, 6) a LCD device wherein light from a light collector and light from a light source [50] are directed separately into a light guide [20]. It allows increasing quantity of the light directed into a light guide and in result to increase illumination of LC panel.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of different colors, of Naum, in order to obtain wide array of colors of light output, and provide the device combination of the devices of Pelka et al. and Naum, with lights from a collector and supplemental light source being directed separately into a light guide, as taught by Rai et al., in order to increase quantity of the light directed into a light guide and in result to increase the output illumination.

Referring to Claims 37 and 38, please note, that the functional recitation that the optical cable has a cross-sectional through which light is reduced by 1/3 and 2/3 compared to a lighting system in which all colors are generated by the collector sheets does not have patentable weight.

Referring to Claim 45 Pelka et al. disclose the instant claimed invention except for that a lighting device is coupled to light transmissive sheet, that is coupled to the light guide.

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Naum discloses (Fig.10) a lighting device [66] coupled to a light transmissive sheet that is coupled to the light guide [28].

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the lighting device coupled to a light transmissive sheet that is coupled to the light guide, as shown by Naum, in order to obtain stable position of the supplemental light source.

Referring to Claims 46, 47 Pelka et al. disclose the instant claimed invention except for a luminaire and light collector coupled to the luminaire without intervening separate light guide.

Naum discloses (Fig.5) a lighting system including a luminaire [72]. The light collector [26] is coupled to the luminaire without an intervening separate light guide.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with luminaire, coupled to the light collector without intervening separate light guide, in order to eliminate the use of the light guide and, in a result, to simplify the structure and reduce the price of the device.

Referring to Claims 53, 54 Pelka et al. disclose the instant claimed invention except for a control circuit.

Naum discloses the light output controlled by a control circuit (col.8, lines 22-25).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the lighting system of Naum, having a control circuit, in order to control the output illumination.

Referring to Claim 55 Pelka et al. disclose the instant claimed invention except for a plurality of light emitting devices.

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Naum discloses more than one lighting devices (Abstract).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with a plurality of lighting devices of Naum, in order to increase the illumination.

Referring to Claim 33 Pelka et al. disclose the instant claimed invention except for intensity of the light sources.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with a blue light source emitting 2-20% of the total amount of lumens and the red light source emitting 15-30% of the total amount of lumens, in order to obtain an optimal intensity for mixing with green light, for the purpose of illumination with a neutral white color, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980).

Claims 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum, and Rai et al., as applied to claim 29 above, and further in view of Bornstein et al. (US 4,539,625).

Referring to Claim 34 Pelka et al. in view of Naum and Rai et al. disclose the use the LEDS of different colors, including blue color (col.8, line 10), but does not disclose a light collector sheets emitting green and red light.

Bornstein et al. disclose (Fig.1) a light collector [10] including a sheet [14] emitting a red light and a sheet [16] emitting a green light (col.3, lines 37-40).

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It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and separately directed lights of Rai et al., with the light collector sheets emitting red and green lights, as taught by Bornstein et al., in order to obtain an illumination with a neutral white color.

Referring to Claim 35 Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for intensity of blue light source.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the blue light emitting 2-20% of the total amount of lumens, in order to obtain an optimal intensity for mixing with green and red lights, for the purpose of illumination with a neutral white color, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum, and Rai et al., as applied to claim 29 above, and further in view of Miyawaki et al. (US 4,832,428).

Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for a prism coupler.

Miyawaki et al. disclose (Fig.4) a light source [16] coupled to the light guide [12] by prism [14] for receiving and directing a light beam from a light source [16].

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and

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separately directed lights of Rai et al., with the prism, as taught by Miyawaki et al., for the purpose of receiving and directing the light from the light source to the light guide.

Claims 42, 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum, and Rai et al., as applied to claim 29 above, and further in view of Shahidi-Hamedani et al. (US 5,165,187).

Referring to Claim 42 Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for an optical fiber coupler.

Shahidi-Hamedani et al. disclose (Fig. 1A) a lighting device including a light guide [2] and a light source [20] coupled to the light guide by the optical fibers [16]. This structure allows reducing losses of the light entering the light guide.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and separately directed lights of Rai et al., with the light source coupling to the light guide by the optical fibers, as taught by Shahidi-Hamedani et al., in order to reduce losses of the light entering the light guide.

Referring to Claims 50-52 Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for battery and solar cell.

Shahidi-Hamedani et al. disclose a lighting device powered by the battery and solar cell (col.3, lines 17-19).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and



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separately directed lights of Rai et al., with the battery and solar cell, as taught by Shahidi-Hamedani et al., in order to provide electrical power to energize the light source for illumination.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum and Rai et al., as applied to claim 29 above, and further in view of Riser et al. (US 6,196,709).

Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for a lens coupler.

Riser et al. disclose (Fig.2) a lighting system wherein a light from a light source [12] is focused by a lens [16] onto the light guide [20].

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and separately directed lights of Rai et al., with the lens, as taught by Riser et al., in order to focus the light onto the light guide and reduce losses of the light entering the light guide.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum and Rai et al., as applied to claim 29 above, and further in view of Grenda et al. (US 6,948,840).

Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for a light source implanted into a light guide.

Grenda et al. disclose (Fig.1) a lighting device having a light source [22] implanted into a light guide [20]. This structure allows all light from the light source entering the light guide.

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It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and separately directed lights of Rai et al., with a light source implanted into a light guide, as taught by Grenda et al., in order to prevent losses of the light entering the light guide.

Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelka et al. in view of Naum and Rai et al., as applied to claim 29 above, and further in view of Doong et al. (US 6,200,011).

Pelka et al. in view of Naum and Rai et al. disclose the instant claimed invention except for a lighting device mounted in a luminaire.

Doong et al. disclose (Fig.2) a luminaire and a light source [4] mounted in a luminaire and the light sources [3] and [3'] mounted adjacent to the luminaire. The body of the housing [1] play role of the light guide, guiding a light emitted from the light sources [3] and [3'] and reflected light emitted from the light source [4]. This structure allows obtaining compact size of the device.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Pelka et al. with the light source of Naum and separately directed lights of Rai et al., with a light source mounted adjacent the luminaire, as taught by Doong et al., in order to reduce size of the device.

### ***Response to Arguments***

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Applicant's arguments filed 10/24/2007 have been fully considered but they are not persuasive.

Applicant argues, that the cited references fail to show that the light from electrically powered light sources supplements the light from collector to provide the light of different color.

In response, Naum in col.8, line 10 discloses, that the device has a red LED and blue LED (electrically powered light sources).

Pelka et al. in col.12, lines 16-29 disclose a light collector, which emits a green light. One having ordinary skill in the art would have recognized, that mixing of green light emitted from collector of Pelka et al. with red and blue light emitted from the electrically powered light sources (LEDs) of Naum allows providing white color light output.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Tsidulko whose telephone number is (571) 272-2384. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

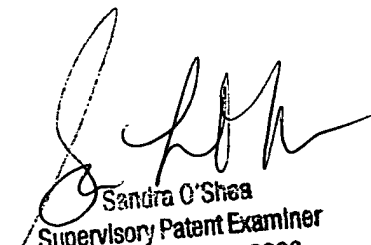
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M.T.

December 17, 2007



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